AMENDMENTS

This listing of claims will replace all prior versions and listings of claims in this application:

In the claims

Claims 1-22 (canceled)

Claim 23 (currently amended): A method for detecting the presence of a target molecule in a composition, said method comprising:

a) contacting said composition with a catalytically inactive RNA molecule which binds to said target molecule, wherein said RNA molecule comprises all nucleotide sequences of a complete catalytic domain,

wherein binding of said catalytically inactive RNA molecule to said target molecule allows catalytic action upon a substrate other than the target molecule,

wherein said catalytic action is dependent upon binding of said catalytically inactive RNA molecule to said target molecule, and

~~wherein said catalytic action upon the substrate is indicative of the presence of said target molecule in said composition~~; and

b) detecting said catalytic action, wherein said catalytic action upon the substrate is indicative of the presence of said target molecule in said composition ~~the presence of the target molecule, if any~~.

Claim 24 (previously presented): A method as in claim 23, wherein the substrate is also bound to the target.

Claim 25 (previously presented): A method as in claim 23, wherein the target molecule is a polynucleotide.

Claim 26 (previously presented): A method as in claim 23, wherein the target molecule is DNA.

Claim 27 (previously presented): A method as in claim 23, wherein the target molecule is RNA.

Claim 28 (previously presented): A method as in claim 23, wherein the target molecule is ssDNA.

Claim 29 (withdrawn): A method as in claim 23, wherein the target molecule is a polypeptide.

Claim 30 (withdrawn-currently amended): A method as in claim 23, wherein the target molecule ~~is~~ can be recognized by an aptamer.

Claim 31 (withdrawn): A method as in claim 23, wherein the target molecule is a metal ion.

Claim 32 (previously presented): A method as in claim 23, wherein said catalytic domain is a catalytic domain of a hairpin ribozyme.

Claim 33 (previously presented): A method as in claim 23, wherein the catalytically active RNA comprises a hammerhead ribozyme.

Claim 34 (previously presented): A method as in claim 23, wherein said catalytic action comprises both cleavage and ligation of nonadjacent substrates that are both bound to the target.

Claim 35 (previously presented): A method as in claim 23, wherein said catalytic action comprises cleavage of a capture probe which is bound to the target and ligation of two replicase probes which are bound to the target.

Claim 36 (previously presented): A method as in claim 23, wherein said catalytic action comprises cleavage of a capture probe which is bound to the target and ligation of two replicase probes which are not bound to the target.

Claim 37 (previously presented): A method as in claim 23, wherein the substrate is the catalytically active RNA and the reaction catalyzed by the catalytically active RNA is autocatalysis.

Claim 38 (previously presented): A method as in claim 23, wherein the substrate comprises a capture probe which comprises polynucleotide sequences that are complementary to both the target sequence and the substrate sequence.

Claim 39 (previously presented): A method as in claim 38, wherein the capture probe is bound to a solid support.

Claim 40 (previously presented): A method as in claim 39, wherein said catalytic action comprises cleavage of the substrate and wherein a portion of the capture probe is released from the solid support upon said cleavage.

Claim 41 (previously presented): A method as in claim 40, wherein the capture probe further comprises a terminal biotinylated nucleotide.

Claim 42 (previously presented): A method as in claim 41, wherein the solid support comprises streptavidin-coated particles.

Claim 43 (previously presented): A method as in claim 42, wherein the particles comprise a magnetic material.

Claim 44 (previously presented): A method as in claim 25, wherein the substrate comprises two RNA replication probes, wherein each replication probe comprises a sequence that can serve as a substrate for Qβ replicase only when both replication probes are ligated together.

Claim 45 (previously presented): A method as in claim 44, wherein said catalytic action comprises ligation of the two replication probes to each other.

Claim 46 (previously presented): A method as in claim 45, further comprising the step of freezing the composition.

Claim 47 (previously presented): A method as in claim 45, further comprising the step of adding at least about 40% ethanol to the composition.

Claim 48 (previously presented): A method as in claim 45, wherein detecting the presence of the target molecule comprises amplification of the ligated replication probes by Qβ replicase.

Claim 49 (previously presented): A method as In claim 48, further comprising the presence of an intercalating fluorescent dye and detection of the Qβ replicase reaction products by observation of the change in fluorescence.